

Amendments to the Specification:

Please rewrite the paragraph on page 2, line 13 -- page 3, line 4 as follows:

According to the present invention, there is provided a gas sensor comprising a sensor element having a gas-introducing hole close to an end of the sensor element; the sensor element including a first space for introducing a measurement gas thereinto from the gas-introducing hole via a first diffusion rate-determining section, a main pumping means for controlling a partial pressure of oxygen contained in the measurement gas introduced into the first space to be substantially constant, a second space for introducing the measurement gas thereinto from the first space via a second diffusion rate-determining section, and an electric signal-generating converting means for reducing or decomposing a NO_x component contained in the measurement gas introduced from the second space via a third diffusion rate-determining section to generate an electric signal corresponding to an amount of oxygen produced thereby so that a concentration of NO_x existing in the measurement gas is determined from the electric signal, wherein

$$30\%\underline{0.3} \leq (W_c/W_e) < 70\%\underline{0.7}$$

wherein W_e represents a lateral width of the end of the sensor element, and W_c represents a lateral width of the gas-introducing hole.

Please rewrite the paragraph on page 4, lines 9-15 as follows:

However, in the present invention, the ratio (W_c/W_e) between the lateral width W_e of the end of the sensor element and the lateral width W_c of the gas-introducing hole is not less than $30\%\underline{0.3}$ and less than $70\%\underline{0.7}$. Accordingly, the mechanical strength is increased in the vicinity of the gas-introducing hole, and the generated thermal stress is reduced as well.

Please rewrite the paragraph on page 4, line 26 -- page 5, line 6 as follows:

In the gas sensor constructed as described above, it is preferable that the sensor element further includes a heater for maintaining at least the first space and the second space at a predetermined temperature, and

$$20\%0.2 < (La/We) < 50\%0.5$$

wherein La represents a distance from a projected position of an end of the heater on an upper surface of the sensor element to the end of the sensor element.

Please rewrite the paragraph on page 25, lines 6-16 as follows:

As shown in FIG. 2, the gas sensor 10A according to the first embodiment is designed so that the following expression is satisfied:

$$30\%0.3 \leq (Wc/We) < 70\%0.7$$

provided that “We” represents the lateral width of the end of the sensor element 12 and “Wc” represents the lateral width of the gas-introducing hole 28, and the following expression is satisfied:

$$W2 < Wc < W1$$

provided that “W1” represents the width of the first space 20 and “W2” represents the width of the second space 22.

Please rewrite the paragraph on page 26, lines 2-8 as follows:

However, in the gas sensor 10A, the ratio (Wc/We) between the lateral width We of the end of the sensor element 12 and the lateral width Wc of the gas-introducing hole 28 is not less than 30%0.3 and less than 70%0.7. Accordingly, the mechanical strength is increased in the vicinity of the gas-introducing hole 28, and the thermal stress is reduced as well.

Please rewrite the paragraph on page 27, lines 8-15 as follows:

As shown in FIG. 4, Comparative Example 1 was illustrative of a case in which the ratio (W_c/W_e) between the lateral width W_e of the end of the sensor element 12 and the lateral width W_c of the gas-introducing hole 28 was ~~70%~~0.7. As shown in FIG. 5, Example 1 was illustrative of a case in which the ratio (W_c/W_e) was ~~60%~~0.6. As shown in FIG. 6, Example 2 was illustrative of a case in which the ratio (W_c/W_e) was ~~50%~~0.5.

Please rewrite the paragraph on page 28, line 25 -- page 29, line 2 as follows:

That is, the ratio (W_c/W_e) between the lateral width W_e of the end of the sensor element 12 and the lateral width W_c of the gas-introducing hole 28 satisfies the following expression:

$$\text{~~30%~~0.3} \leq (W_c/W_e) < \text{~~70%~~0.7}$$

Please rewrite the paragraph on page 29, lines 8-12 as follows:

Further, the following expression is satisfied provided that L_a represents the distance from the projected position of the end of the heater 80 on the upper surface of the sensor element 12 to the end of the sensor element 12:

$$\text{~~20%~~0.2} < (L_a/W_e) < \text{~~50%~~0.5}$$

Please rewrite the paragraph on page 29, lines 24-27 as follows:

The ratio (W_c/W_e) between the lateral width W_e of the end of the sensor element 12 and the lateral width W_c of the gas-introducing hole 28 satisfies the following expression:

$$\text{~~30%~~0.3} \leq (W_c/W_e) < \text{~~70%~~0.7}$$

Please rewrite the paragraph on page 30, lines 6-10 as follows:

Further, the following expression is satisfied by the distance La from the projected position of the end of the heater 80 on the upper surface of the sensor element 12 to the end of the sensor element 12:

$$20\%0.2 < (La/We) < 50\%0.5$$

Please rewrite the paragraph on page 30, lines 22-25 as follows:

The ratio (Wc/We) between the lateral width We of the end of the sensor element 12 and the lateral width Wc of the gas-introducing hole 28 satisfies the following expression:

$$30\%0.3 \leq (Wc/We) < 70\%0.7$$

Please rewrite the paragraph on page 31, lines 4-8 as follows:

Further, the following expression is satisfied by the distance La from the projected position of the end of the heater 80 on the upper surface of the sensor element 12 to the end of the sensor element 12:

$$20\%0.2 < (La/We) < 50\%0.5$$

Please rewrite the paragraph on page 31, line 19 -- page 32, line 3 as follows:

In particular, in the gas sensors 10Aa to 10Ac according to the first to third modified embodiments, the ratio (La/We) between the distance La and the width We of the end of the sensor element 12 satisfies $20\%0.2 < La/We < 50\%0.5$. Therefore, the heat generated by the heater 80 is hardly transmitted to the neighborhood of the gas-introducing hole 28, and the sudden temperature change, which would be otherwise caused by the introduction of the measurement gas, is scarcely caused. As a result, it is possible to further reduce the stress generated in the sensor element 12, and it is possible to further improve the reliability of the gas sensors 10Aa to 10Ac.

Please rewrite the paragraph on page 33, lines 13-21 as follows:

As shown in FIGS. 13A and 13B, Comparative Example 2 was illustrative of a case in which the ratio (W_c/W_e) between the lateral width W_e of the end of the sensor element 12 and the lateral width W_c of the gas-introducing hole 28 was 70 ± 0.7 , and the ratio (L_a/W_e) between the distance L_a from the projected position of the end of the heater 80 on the upper surface of the sensor element 12 to the end of the sensor element 12 and the width W_e of the sensor element 12 was 20 ± 0.2 .